Study of Augmenting Groundwater Supplies through Capture of Urban Runoff

Los Angeles and San Gabriel Rivers Watershed Council

A worker implements the CALFED-funded Water Augmentation Study.

Award Amount
$971,800

Watershed
Los Angeles River and San Gabriel River Watersheds

County
Los Angeles County

CALFED Region
Southern California Region

Legislative Districts
US Congress: 30, 36, and 40
State Assembly: 41, 53, and 54
State Senate: 23, 25, and 27

Purpose

Assess the feasibility of capturing a currently wasted resource in urban stormwater that is associated with environmental problems and using it to augment groundwater supplies.

Project Goals

- Assess water quality implications of infiltrated urban runoff.
- Assess the effectiveness of various infiltration best management practices (BMPs) in reducing or eliminating pollutants.
- Quantify the amount of stormwater that could be realistically secured.
- Develop an implementation plan to deploy infiltration devices in appropriate locations and settings, along with guidelines for sustainability.

Benefits to the CALFED Program

This water augmentation study furthers the goals of the Water Use Efficiency Program by identifying and implementing new and innovative measures to improve the efficiency of local urban water use. The ultimate objective of this project is to reduce the impacts of water diversions on the Bay-Delta system through demand-side management and enhancement of available local water supplies. This study is a landmark endeavor that increases organizational collaboration and social capacity. It is a locally led effort that brings together ten federal, state, and local agencies to achieve a sustainable program for efficient water use. Local benefits are not limited to the Los Angeles and San Gabriel River Watersheds, as the results of the study and its design standards will be shared with other urban watershed groups.

Project Overview

This groundwater augmentation study is a pilot project with collaborative oversight of ten federal, state, and local agencies. The idea for an urban runoff capture program was conceived by these agencies as a possible way to reduce the amount of polluted stormwater runoff entering local streams. The project increases groundwater reserves by using infiltration best management practices (BMPs) to recharge groundwater with urban runoff. This study researches many unknowns about urban runoff retention in order to develop a sustainable stormwater capture program. Some of the research topics under study include:

- assessment of potential impacts on groundwater quality,
- identification of land uses that may have different impacts on contaminants found in runoff,
- determination of effectiveness of various recharge BMPs,
- identification of areas appropriate for installation of recharge BMPs,
- quantification of the amount of additional drinking water that could be harvested,
- assessment of the economic value of harvested water,
- development of design standards for BMPs, and
- identification and assessment of any institutional barriers to requiring or encouraging widespread installation of infiltration BMPs.

This water augmentation study grew out of the Los Angeles and San Gabriel Rivers Watershed Council's vision for their watersheds within the next generation (20-30 years). The vision statement includes a principal goal of "using all water resources efficiently," including increased use of reclaimed water, groundwater recharge, and detention of stormwater. When the vision is realized, the Los Angeles region, while still dependent on imported water, will be able to provide a far greater proportion of its own water needs.

A volunteer gets her hands dirty testing an urban stormwater supply area.

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